



MAXIMA SPEED | A | D | V | A | N | C | E | edger

OPTIMA | A | D | V | A | N | C | E | edger

User's manual

Dear customer,

INDUSTRIAS DE OPTICA S.A.U. is grateful for your reliance on its product.

You have purchased high quality equipment that will provide you great professional satisfaction.

As a contribution to this, we include the following user's manual, with all the necessary information for proper use of the equipment.



READ THIS MANUAL BEFORE USE

- This User's Manual contains necessary information for the operation of the **OPTIMA ADVANCE** and **MAXIMA SPEED ADVANCE** edger.
- This manual provides all available operating procedures and options, use and safety measures, accessories information, basic maintenance and technical specifications.
- Before using for the first time the edger, a complete reading and understanding of its content is required, in particular operations procedure and safety cautions.
- Keep this manual close to the equipment and read it if needed.
- If you have any question or find any problem about the equipment during operation, please contact the INDO's authorised Technical Service in your area.

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A. SAFETY

IN THIS MANUAL, A SIGNAL WORD IS USED TO DESIGNATE THE DEGREE OR LEVEL OF SAFETY ALERTING.

THERE ARE 2 TYPES OF LABELS DEPENDING ON THE SAFETY LEVEL.



CAUTION!

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or a property damage accident.



WARNING!

- Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Even situations that are labeled  CAUTION! may result in serious injury under certain situations. Safety precautions must be followed strictly at all times.

FOLLOWING THE RECOMMENDATIONS AND SAFETY RULES DESCRIBED IN THIS MANUAL IS VERY IMPORTANT.

B. CAUTIONS FOR THE INSTALLATION AND USE



WARNING!

- Do not place the equipment over the power cord. Cord cover may be damaged and cause electrical shocks or short-circuits.
- If metal wires of the cord are exposed, power turns off and on when moving cord or cable/plug are abnormally hot, that means cable is damaged. Immediately change the cable by a new one. If not, it may result in electrical shock or fire.
- The **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edgers should be installed in a stable and well-leveled place, free of shocks or vibrations. If not, it may result in poor final quality of the jobs or equipment malfunction.
- In case of a direct water connection, the water inlet should be protected through an external tap installed in the water supply pipe. Input flow and pressure should not exceed the normal values of a domestic water network.
- In case of a direct water connection, the draining pipe should remain at least ½ meter below the machine level. The draining hose should connect to the draining pipe without angles that make difficult the evacuation of remains.

C. USE WARNINGS



WARNING!

- Never disassemble nor touch the internal structure of the edger. Electric shock or failure of the instrument may occur.
- Never use the equipment for purposes other than the specified. **INDUSTRIAS DE ÓPTICA S.A.** will not be responsible for accidents or malfunctioning caused by this wrong use.
- Use equipment in the following conditions:
 - Equipment for indoor use.
 - Temperature: 5°C - 40°C
 - Relative humidity: max. 80% up to 31°C, with linear decrease up to 50% at 40°C
 - Altitude: 2000 m
 - Accepted mains fluctuations: $\pm 10\%$
 - Installation category: II
 - Pollution degree: 2
 - Interferences, vibration and shock free environment
 - Power inlet with ground connection.
- For the storage of the packed equipment and its shipment we recommend the same conditions of temperature and humidity.
- Operator's working location is in front of the edger, facing the working area, this last being protected with the main cover. Working area is described as the part of the unit containing the grinding wheels and lens shafts. **Danger area is the part of the working area between grinding wheels and lens shafts.**
- **NEVER** manipulate inside the working area while lens is being edged. Manipulation is only permitted when the cycle has reached its end and grinding wheels have completely stopped its rotation. When the cycle starts, close the cover manually so that the working area stays protected, not being accessible. **NEVER OPEN THE COVER DURING A WORKING CYCLE.** If, due to use reasons, the said cover should be opened, then **AVOID ANY USER'S OR THIRD PERSON'S MANIPULATION INSIDE THE WORKING AREA.**
- With the main cover closed, noise and acoustic pressure levels are tolerable. Special protection elements are not needed.
- In case of malfunction, never touch inside the equipment. Remove power cord and contact with **INDO's authorised Technical Service** in your area.

D. WASTE AND DISPOSAL

D.1 DRAIN FILTERS



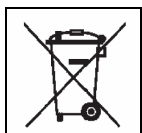
CAUTION!

- For correct edged lenses waste disposal make sure to use recommended mode and type drain filters, otherwise drainpipes may get stuck.
- Filters must be cleaned on a regular basis or changed as often as needed by the kinds of edged materials and lenses number.

D.2 WASTE AND DISPOSAL ORDINANCES

- Follow **local governing ordinances** and recycling plans regarding disposal or recycling of device components.
- When disposal of packing material follow **local governing ordinances** according to your classification.
- When disposing of lens waste, follow **local governing ordinances**.

D.3 WASTE AND DISPOSAL LABEL



- This sign shows that this device needs a selective wasting program in order to have a correct environment management and must never be disposed of when not used. You'll see on the edger an ID label with crossed garbage container as shown on picture. This tag shows that the machine disposal must be sorted by material for environmental care and can't be disposed of improperly.

NOTA:

Independently from the actual local governing ordinances, INDO, through its Corporate Social Responsibility commitment, has adhered voluntarily to the United Nations World Pact (**Global Compact**) and works for the sustainable development and to reduce the environmental impact in its activities, having set an Environment Management System based on the International Standards ISO 14001 from 2001.

E. LABELS

E.1 IDENTIFICATION LABEL

Equipment ID label on the right side of the machine:



This tag shows the following main data:

- Type of edger (Maxima Speed Advance or Optima Advance)
- Edger serial number
- Power voltage (V)
- Machine power (W)
- Power frequency (Hz)

E.2 HAZARD LABEL



Label on the sink water output.

Hazard if handling in this area when the wheels are rotating.

Please apply strictly all safety recommendations described in this manual.

E.3 FUSE LABEL

(For cooling unit and electrovalves)



Placed on the left side of the edger and at the side of each cooling unit or electrovalve output.

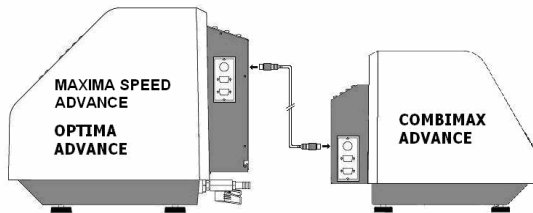
- FUSES for 220V-240V = 2 A slow
- FUSES for 110V-120V = 3 A slow

1. PRODUCT INTRODUCTION

- The **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edger represents the evolution of the previous **MAXIMA SPEED / OPTIMA EVOLUTION** model within our range of **INDO**'s new generation systems for ophthalmic lens edging.
- Edging different types of material:
 - **MINERAL**
 - **CR39**
 - **HIGH INDEX ORGANIC**
 - **POLYCARBONATE**
 - **TRIVEX™**
- Lens finishing with:
 - **Standard bevel**
 - **Minibevel**
 - **Flat bevel**
- As extra functions it allows:
 - **Internal and external pin bevel**
 - **Grooving function (all material except mineral)**
 - **Polishing (all material except mineral)**
- The **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edger uses the 3D digital technology to calculate and trace the lens bevel. The display shows the bevel tracing and the lens thickness during the edging process.
- Through its display and using a simple icon-based user menu the edger functions can be easily controlled.

2. SYSTEM CONFIGURATION

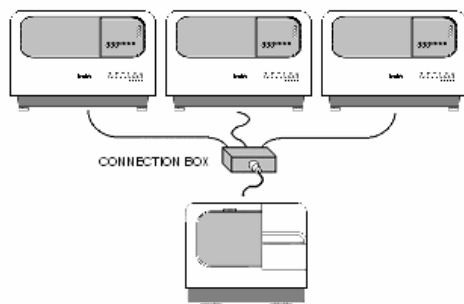
2.1 SINGLE CONNECTION



To connect the **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE – COMBIMAX ADVANCE** system in single mode, connect the edger to the tracer with the communication cable **2114/482 (C28)**, supplied with the COMBIMAX ADVANCE.

Note: The cable is 3 meter long

2.2 NETWORK CONNECTION



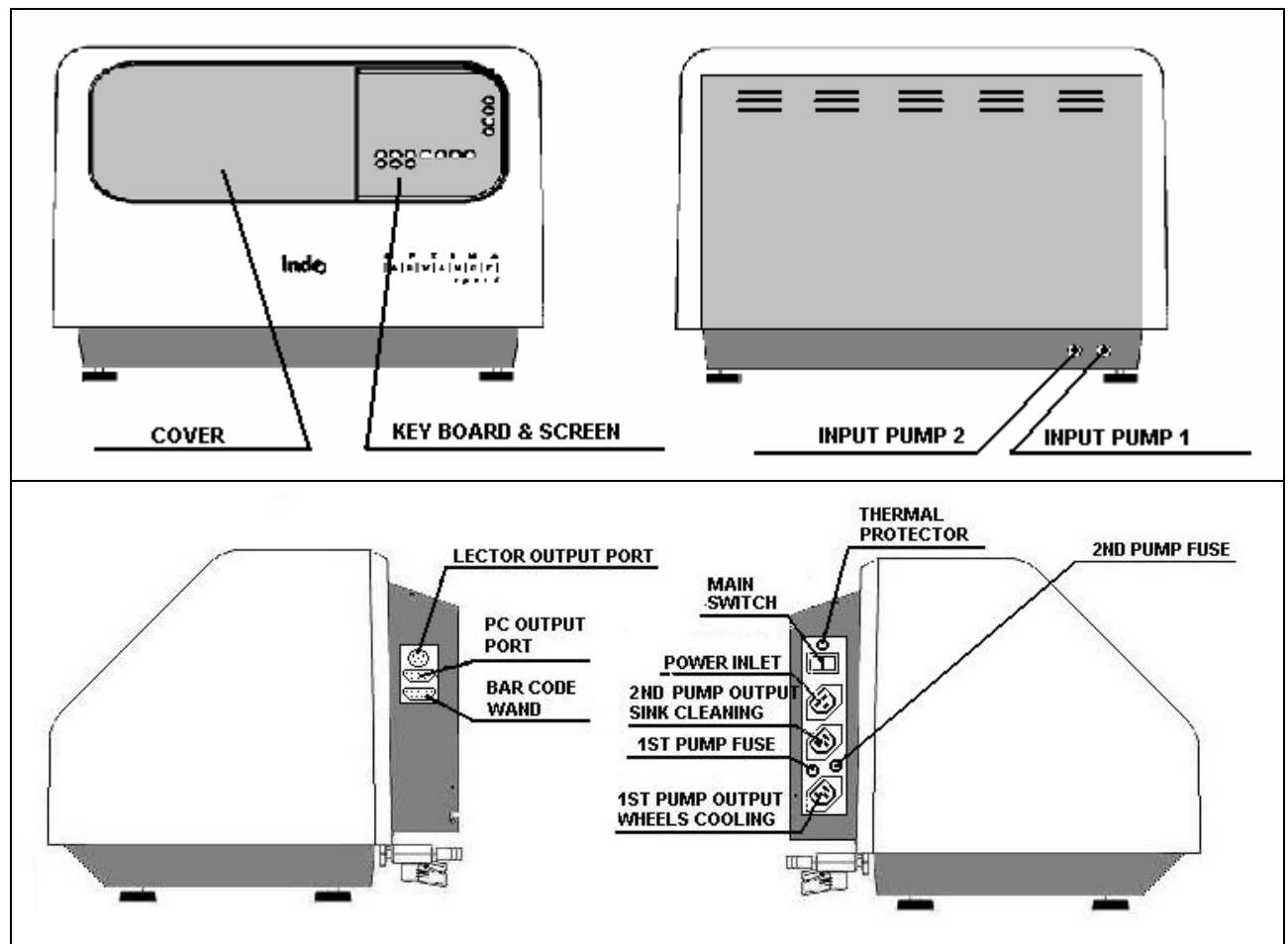
For high productions, the **OPTIMA ADVANCE system** allows a network connection, linking several **OPTIMA ADVANCE** edgers to a single **COMBIMAX ADVANCE**.

It is recommended to connect a maximum of 3 edgers to a single peripheral, so that the duty cycle of every unit will remain balanced.

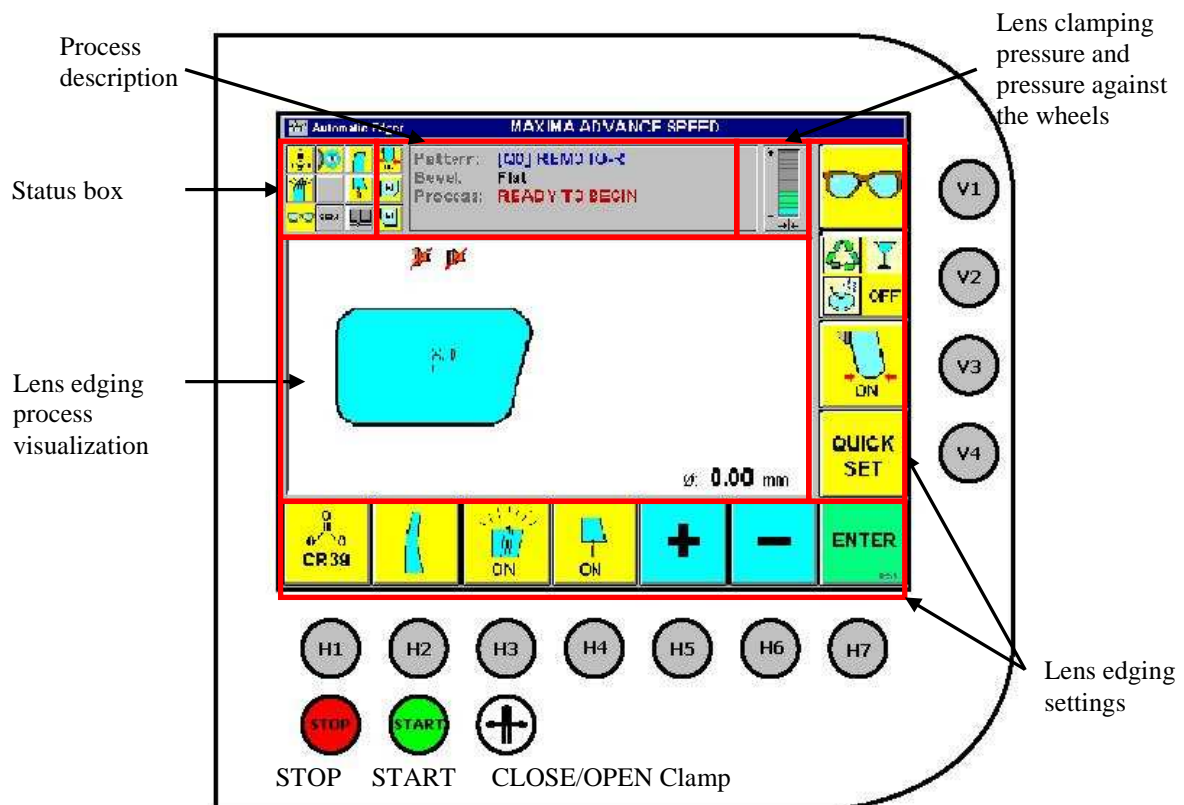
To establish a network of edgers with one peripheral, it is required a **Network connection Kit**. It links up to 3 **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edgers to a single **COMBIMAX ADVANCE**.

NOTE: **MAXIMA SPEED ADVANCE AND OPTIMA ADVANCE** edgers are compatible with the former INDO generation of peripherals. Therefore, it is possible to install a network with **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edgers connected to a SERVICE MODULE, INDOFORM CNC, CNC or MINIBLOC, sharing the net with an ELITE XXI, LINEA XXI, MAXIMA and OPTIMA edgers. However, the **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edgers don't communicate with the 10-job Memory Box, sometimes used with the INDOFORM CNC.

3. DESCRIPTION OF PARTS

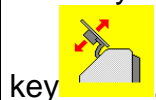


DISPLAY AND KEYPAD



DOOR

The **MAXIMA SPEED ADVANCE** features an automatic door that closes at the beginning of the cycle and opens at the end. You can open it or close it at any time pressing the



This option is not available on the **OPTIMA ADVANCE**.



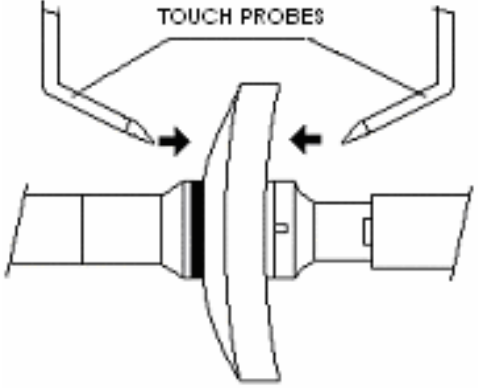
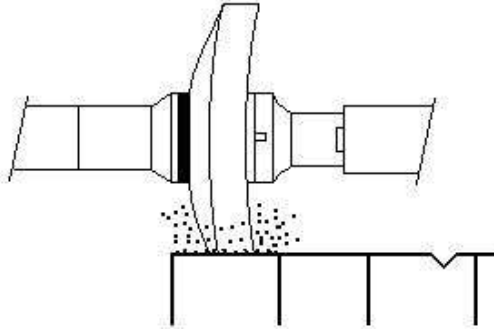
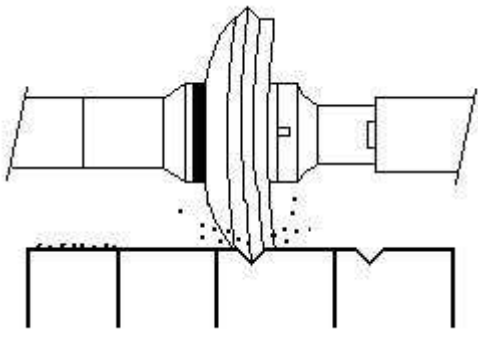
CAUTION!

If you open the door during the cycle, the edger will stop immediately the edging process.

4. DESCRIPTION OF PROCESSES

The **MAXIMA SPEED ADVANCE / OPTIMA ADVANCE** edger makes a standard job in 3 basic steps: MEASURING STEP, ROUGHING STEP and FINISHING STEP. These processes can be completed by other options: POLISHING, GROOVING and PIN BEVELLING.

4.1 COMPULSORY PROCESSES

	<p><u>1st process: Measuring step</u></p> <p>The cycle is starting with a measuring process where the lens thickness is measured according to the frame shape and the base where will be edged the bevel. Both arms of the touch probe assembly make contact with internal and front side to map the lens.</p> <p>Arm tips are made of plastic and do not scratch the lenses. However, if covered with glass dirt, they can scratch, although they will do it in the borderline of material removal. Therefore, it is recommended to clean arm tips on a daily basis.</p>
	<p><u>2nd process: Roughing step</u></p> <p>Once measurement step has finished, the lens moves down over the roughing wheel, following selected process (see Roughing selection). This operation removes the excess of material, giving to the lens the required shape and size, so that selected bevel can be edged.</p>
	<p><u>3rd process: Finishing step</u></p> <p>Finishing step is the final step, in which selected bevel is edged.</p> <p>(Bevel, Minibevel and Flat bevel)</p>

4.2 OPTIONAL PROCESSES

THE OPTIONAL PROCESSES DESCRIBED AS FOLLOW (POLISHING, GROOVING AND PIN BEVELLING) COMPLETE THE COMPULSORY ONES.



Polishing ON

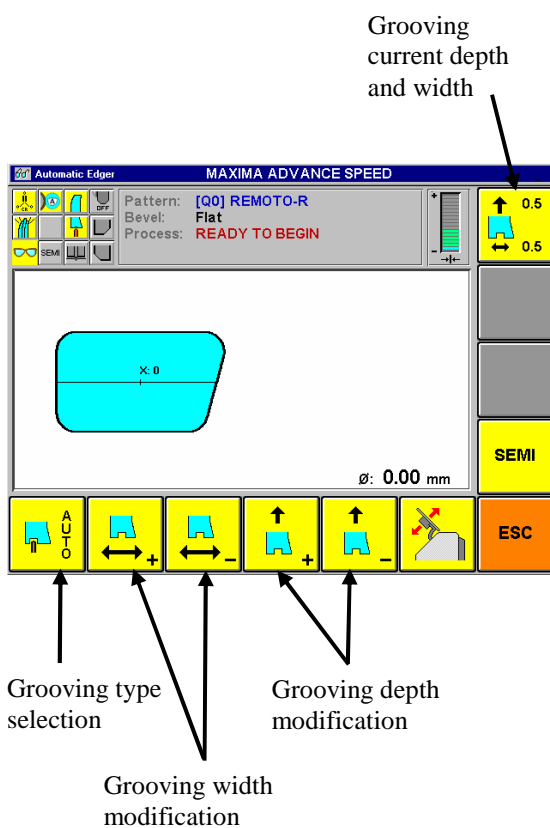


Polishing OFF

- **POLISHING PROCESS:**

Option allowing polishing for plastic lenses.

NOTE: This option is not available for mineral lenses.



- **GROOVING PROCESS:**



WARNING: The minimum lens thickness to groove is 1.5 mm. MINERAL LENSES CAN NOT BE GROOVED. RISK OF GROOVING DISC DAMAGE.



Automatic grooving

For minus lenses, the groove will be parallel to the front side for thickness bigger than 2.5 mm and it will be centered (50%) for smaller ones. For plus lenses, the groove will be centered.



Proportional grooving

It allows a grooving proportionally placed according to the front side, adjustable from 0 to 100% with the keys associated to the icons (+) and (-) (default value 50%).

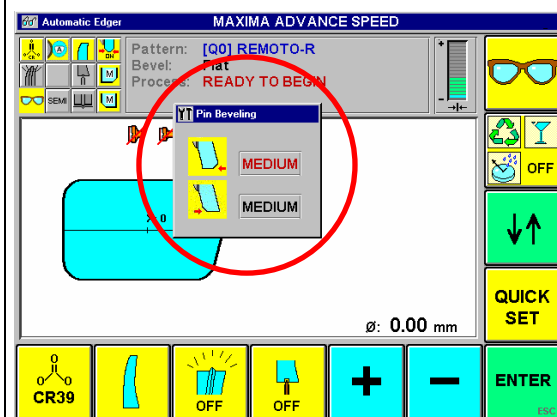
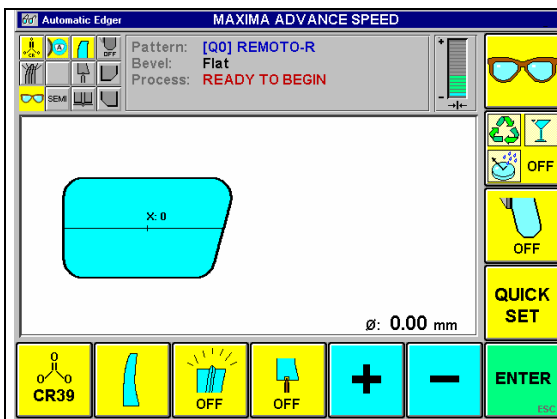


Front side grooving

It allows a grooving parallel to the front side adjusting the distance the keys associated to the icons (+) and (-) (default value 1.0mm).



Grooving deactivated



• PIN BEVELLING PROCESS:



WARNING: The minimum lens thickness for pin bevel is 1.5 mm.



External and internal pin bevel

Pin bevel on both sides of the lens depending on its thickness.



External pin bevel

Pin bevel on the external side of the lens depending on its thickness.



Internal pin bevel

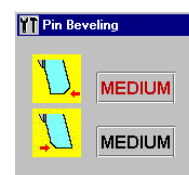
Pin bevel on the internal side of the lens depending on its thickness



Pin bevel deactivated

Pin-bevel depth adjustment

The pin-bevel depth can be adjusted by pressing 2 sec the pin-bevel key. The following window will pop up:



The depth of the internal and the external pin-bevel can be adjusted with the + and – keys, choosing between the 3 possibilities (LOW, MEDIUM and HIGH), with LOW as the less deep pin-bevel.

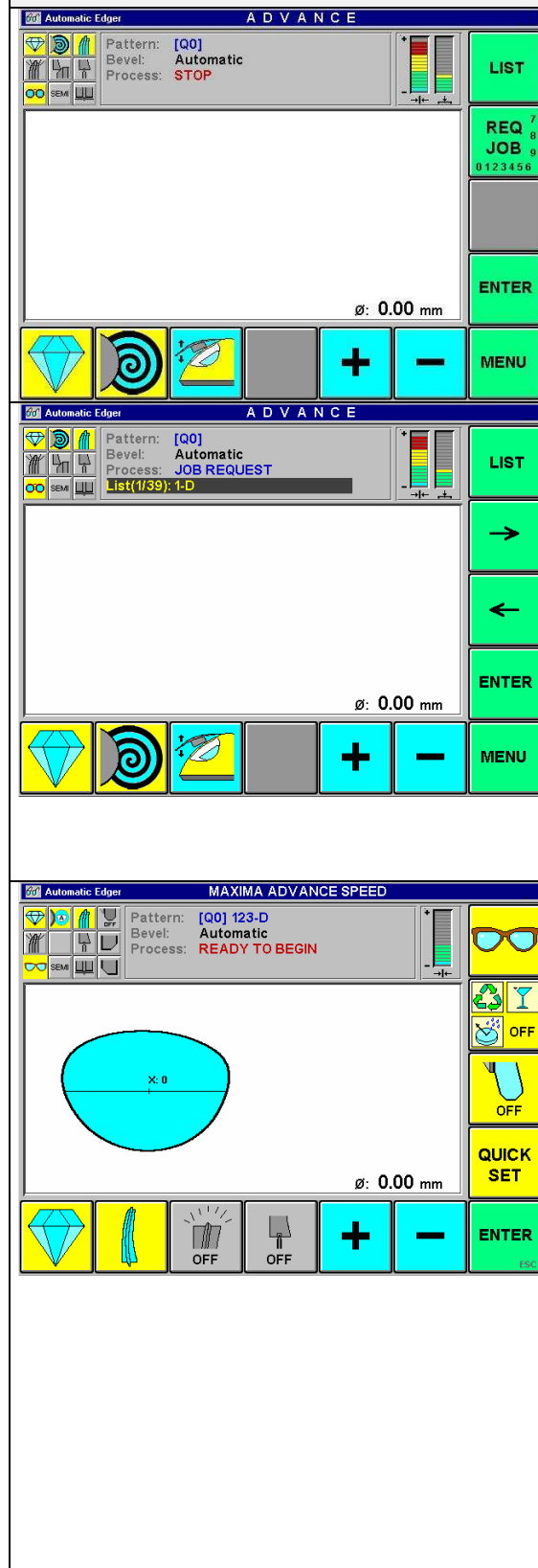


With the double key , we pass from the internal to the external pin-bevel.


The default value for both pin-bevels is MEDIUM.




5. HOW TO MAKE A JOB


5.1 OVERVIEW




Once the equipment is switched on, the default screen will appear. Proceed with the following steps.







Press  and the first pending job on the tracer will appear.

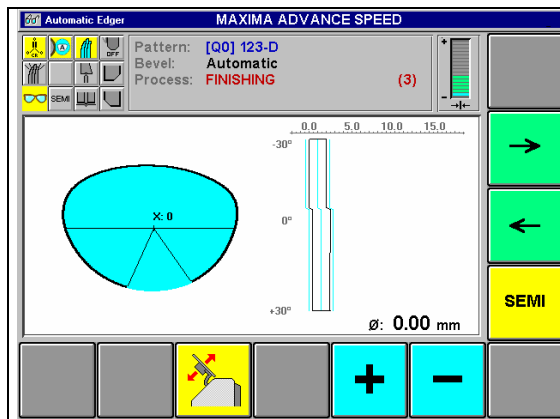
With the left and right arrows  and  choose the job you want to edge. Then press the Enter key .

Place the lens, previously blocked, in the lens shaft and press the clamp key .

At this point there are 2 possibilities:

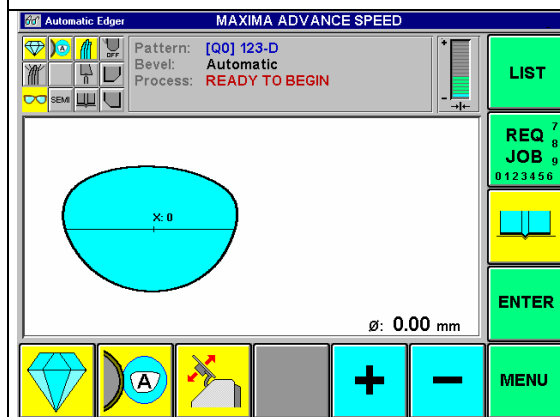
1) You can select a special configuration (Quick Set): press  and then follow the steps described in **6.7 HOW TO CALL A "QUICK SET"**.

2) You follow a standard process: press several times the material key (the default material is mineral ) to select the material of the lens: **MINERAL** , **CR39** , **POLYCARBONATE** , **TRIVEX™**  and **HIGH INDEX** .



After the material selection, press the **START** key and the edging cycle will start with all the default and finishing option. To modify them, go to 6. ADVANCE MENU OPTIONS. The actual process is indicated in the STATUS box. On the right side of the screen the bevel position is shown.

SEMI option also appears in the screen at the beginning of the cycle. This option will be explained in part **6.8 SEMI FUNCTION**.



Once the edging cycle is over, you can retouch it or call the second lens of the job.

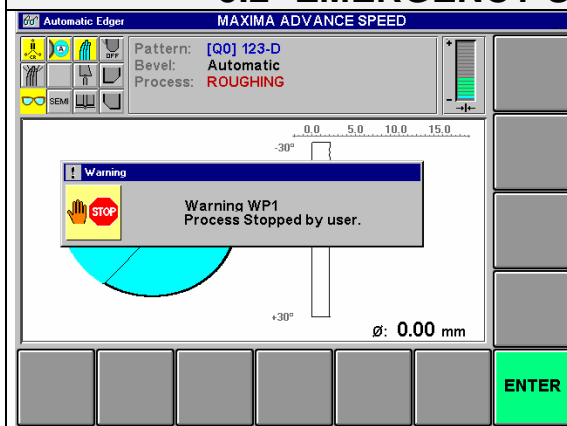
1) Retouch option 

(See section 7. **RETOUCH FUNCTION**).

2) Call the 2nd eye/lens

Press **LIST** to call the second eye of the job. If it exists, it will automatically appear when pressing **LIST**. If there isn't any other eye, a new job can be selected.

5.2 EMERGENCY STOP OF THE EDGING PROCESS

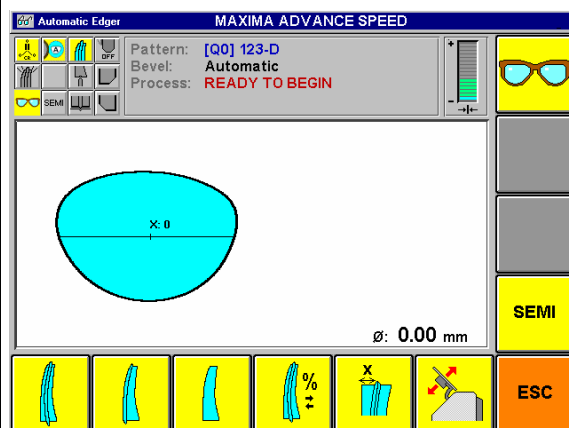
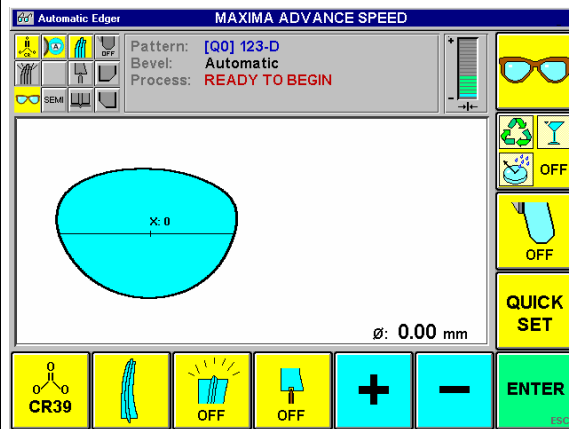



If needed, you can stop the edging process at any time pressing the STOP key.

All moving parts will immediately freeze.

6. ADVANCED MENU OPTIONS

6.1 BEVEL SELECTION



To select the type of bevel press key . This key gives access to the bevel selection and options on the second screen.

There are 5 available bevels.



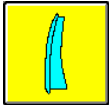
AUTOMATIC

It's the default bevel. The bevel is chosen in the best position according to the lens power (factory settings at 30% from front side for plus lenses, or 20% for minus lenses). For aesthetical reasons, the bevel of the 2nd lens/eye will be the same as the 1st one, no matter the type (plus or minus) i.e., if the 1st lens is a minus lens and the 2nd a plus one, both will have a 20% bevel.

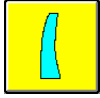


PROPORTIONAL

This option permits to place the bevel proportionally between the two sides of the lens. Default value is 50%. Proportional value is referred to the front side and can be changed by steps of 5% using (+) and (-) keys.

**FRONT SIDE**

This option permits to place the bevel parallel to the front side. Default value is 0.0mm and can be changed in steps of 0.1mm using (+) and (-) keys.

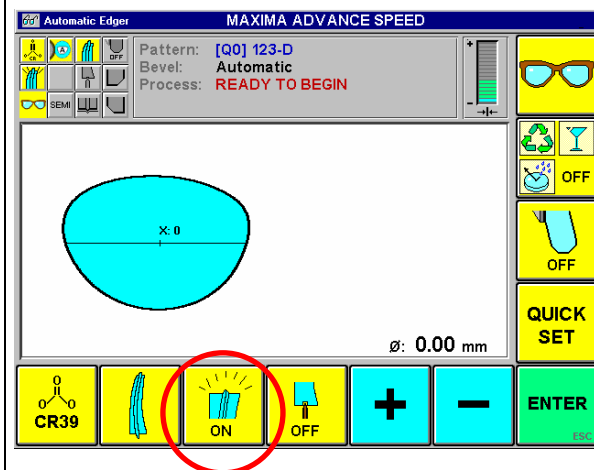
**FLAT**

This option permits to perform a lens finished without V shaped bevel (flat bevel).


**MANUAL (cf. § 6.8.3)**

This option permits to build a bevel modifying its position as required. Access is only allowed after a SEMI stop or an error in the measurement phase.

6.2 POLISHING SELECTION



If the edger features the polishing option, then it can be selected for all materials **except glass**.

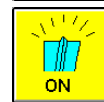
To select the option click on the polish icon  to activate it.



Polishing deactivated (for mineral)

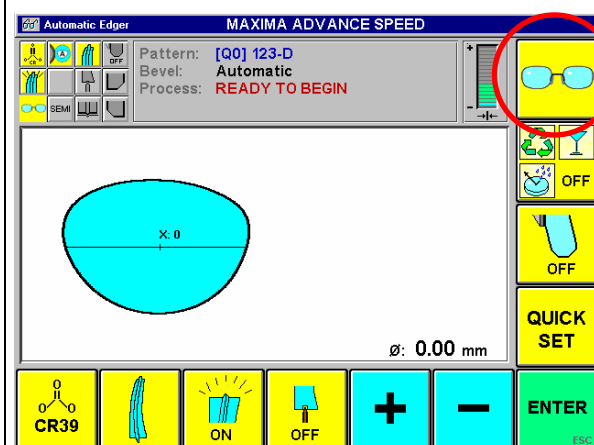


Polishing OFF





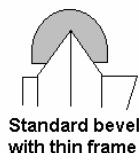
Polishing ON

6.3 STANDARD BEVEL OR MINIBEVEL

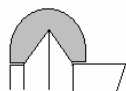


This option permits to select between a normal bevel, 2.8 mm width and 0.8mm high, or a minibevel, de 2.0 mm width and 0.5mm high. Minibevel width can be adjusted in the technical menu. If you want to adjust the width to a value other than the default one, contact the authorised Technical Service of your area.

To select the option click on the Standard Bevel/MiniBevel icon  so as to get the Minibevel enabled .



Standard bevel with thin frame



Minibevel with thin frame

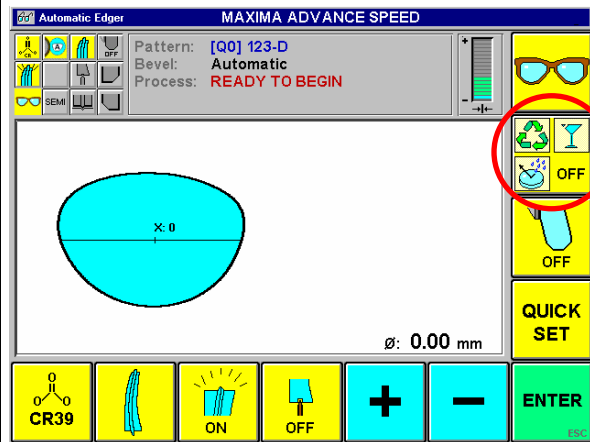


Standard bevel.



Minibevel.

6.4 SPECIAL PROCESSES



This option permits to program special cycles for delicate or recovery lenses, **EXECUTIVE** type lenses and allows you to enable the 8-base curve special function.

To select the option click several times on



the key

The corresponding icon will appear in the status window

(Nothing) Special function disabled



Executive lens

This option reduces the measuring speed and modifies the measuring sequence so that **EXECUTIVE** type lenses can be measured in a safe way.



Recovery lens

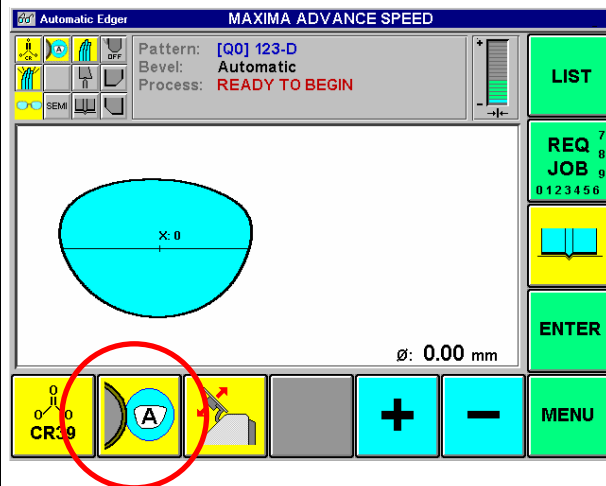
This option measures the lens shape 2 mm smaller, allowing measuring recovery lenses with areas without material.



Lens with water repellent and/or lipophobic coating

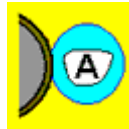
Use this mode when edging lenses with special coatings in association with special stickers and/or other recommendations of the lens manufacturer

6.5 ROUGHING TYPE



This option permits to program the most suitable roughing type, according to the lens type (material, coating and base).

There are 2 available types of roughing.



SMART ROUGHING

In this process, roughing is made with one initial adapting turn and follows then rotating the lens continuously applying the proper treatment depending on lens thickness till reaching the roughing size and form.

It's the fast roughing process



MULTISTEP ROUGHING

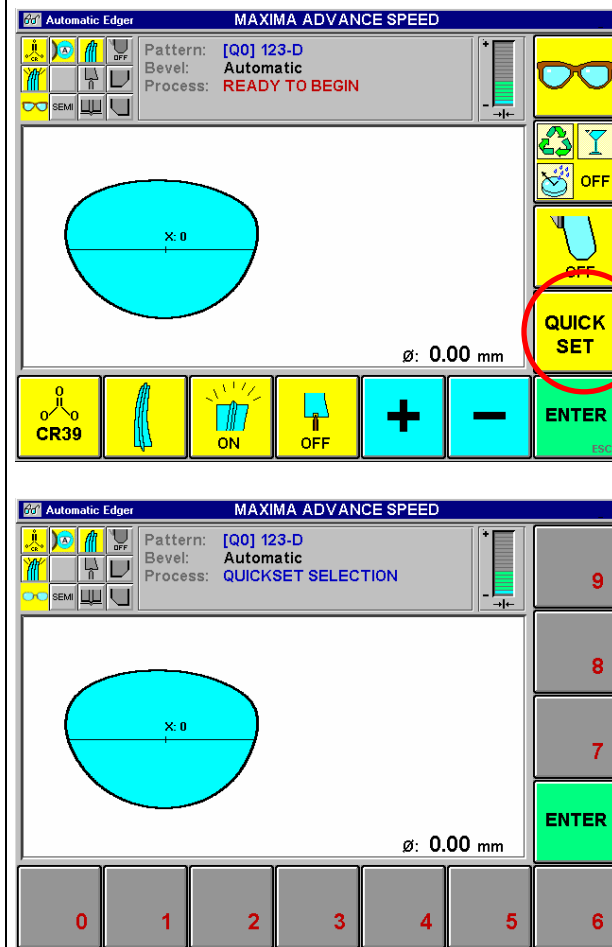
This roughing process is recommended for delicate lenses, in particular for plastic lenses with water repellent coatings. The process performs a roughing cycle in consecutive steps, reducing the force on the lens and, therefore, the risk of axis deviations. The time for a complete roughing process has significant increase. It's slower than the Smart roughing process.



SPECIAL ROUGHING FOR HIGH BASE LENSES


This option modify the lens mapping and the edging process to allow high base (7, 8 and more) curve edging.

6.6 HOW TO CALL A "QUICKSET"



You can call 10 different saved job sets from the **Quickset** screen.

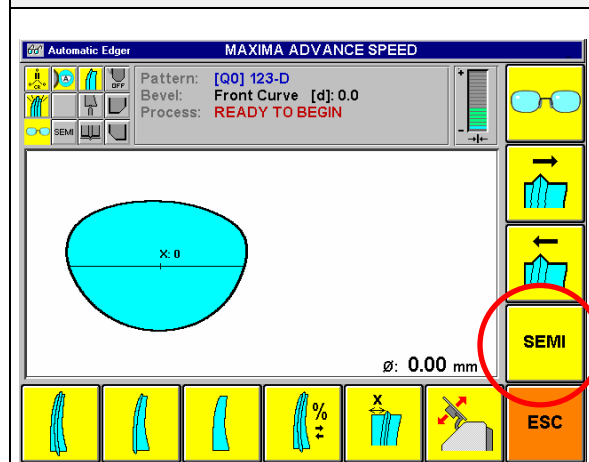
The default set with the starting menu is Q0 (**Quickset n°0**).

To call a **Quickset** press the  key and choose between the 10 **Quicksets** or press ENTER.

The **Quickset** you chose will be automatically loaded (material, finishing, bevel, pressures...).

6.7 THE “SEMI” FUNCTION

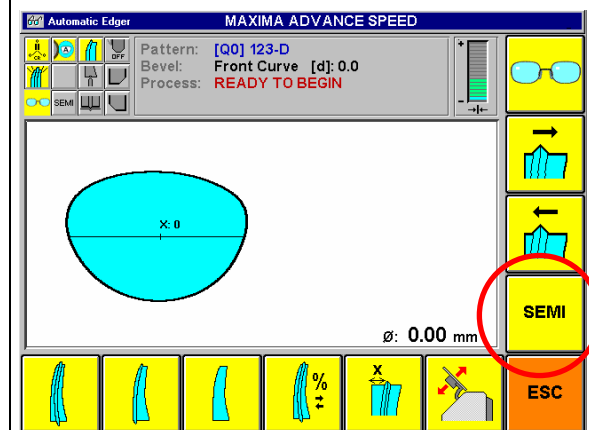
6.7.1 HOW TO ACTIVATE THE “SEMI” FUNCTION



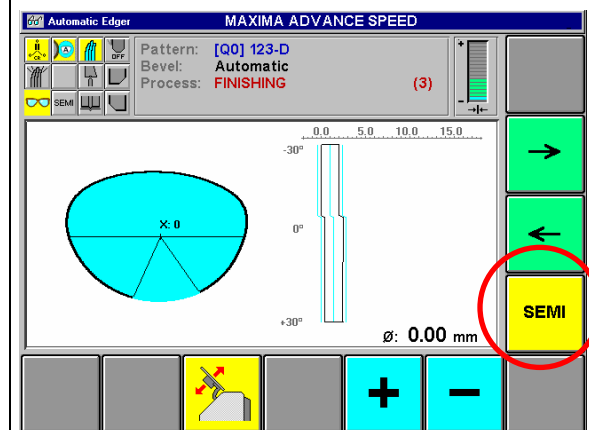
The **SEMI** function allows stopping the cycle before or after the roughing process to modify the bevel or to change the bevel program.

The SEMI function stops the cycle to allow the modification according to the type of finishing:

- GROOVING TYPE AND ADJUSTMENT
- BEVEL TYPE AND ADJUSTMENT
- PIN BEVEL TYPE AND ADJUSTMENT



Before the cycle

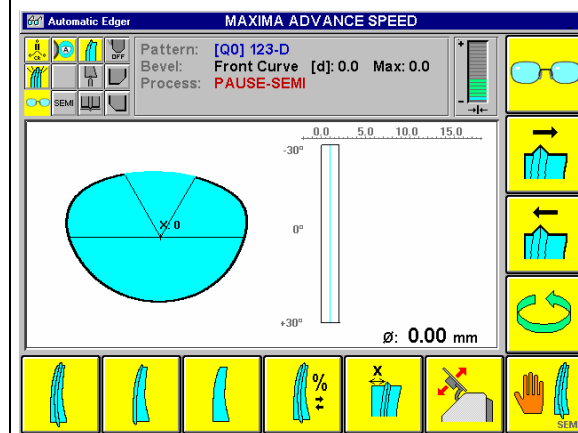


During the cycle

The **SEMI** function can be activated:


- 1) Before starting the cycle. After having chosen the bevel type, you can enable the **SEMI** function pressing the key at the bottom right corner of the screen.
- 2) Once the cycle has started, the icon **SEMI** will still appear at the bottom right corner of the screen. If it's activated before the end of the mapping process the cycle will stop after it. If it's activated after the mapping process antes before the end of the roughing process the cycle will stop after the roughing process.

6.7.2 HOW TO USE THE SEMI FUNCTION

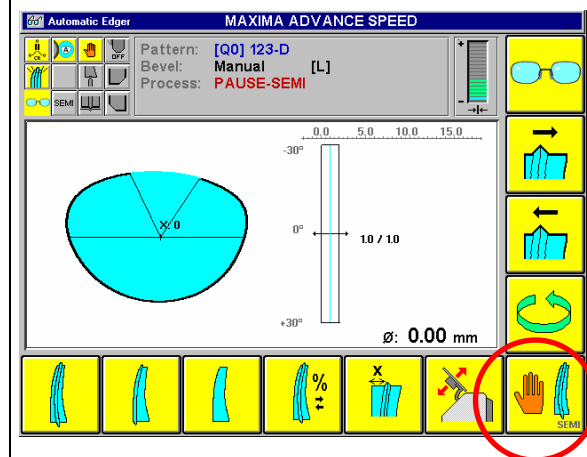


Once the cycle stops after the mapping or roughing process because the SEMI function has been previously enabled, the bevel icons will appear on the next screen.

- Any of the bevel type can be selected. If the flat one is selected, you have access the grooving option (see § 4.2).
- To check the lens bevel all along the


edge, press  and the picture will simulate a full rotation, while the lens won't move.

6.7.3 MANUAL BEVEL



The **MANUAL BEVEL** allows modifying the bevel position at any of the inflexion points of the shape, allowing a fully customized bevel position.

Access to this function is possible only after a **SEMI** stop (see § 6.8.2).

- If the key  is pressed you have access to the manual bevel option (see § 6.8.3).



MANUAL BEVEL: INTRODUCTION

The Manual bevel function offers 3 consecutive process levels. That means each of those processes can be made only if the previous one has been finished:

1. Bevel position can be manually modified in the smallest radius of the shape (**L**). System calculates automatically the new bevel path, according to the new programmed position.
2. Bevel position can be manually modified in the smallest radius of the shape (**L**) (process 1) and the largest one (**H**). The system calculates automatically the new bevel path, according to the new programmed positions.
3. Complete manual bevel: The bevel can be modified in every inflexion point of the shape. New bevel path is automatically calculated to link all programmed positions in a progressive way.



MANUAL BEVEL: OPERATION

Select MANUAL function before start. The cycle will stop immediately after the measuring step, staying in SEMI mode.

Processing level 1. MANUAL bevel [L]

(L) shows the point with the smallest radius respecting to the blocking centre. Graphic on the screen shows a line crossing the bevel representation in said point (L).

Adjust Bevel position in this point (L). The new bevel path will appear on the screen, modified according to the new position of point (L). In addition, screen shows the new curve's value.

Press START to resume the cycle. Press  to proceed to the second process level.

Processing level 2. MANUAL bevel [H]

(H) shows the point with the largest radius respecting to the blocking centre. Graphic on the screen shows a line crossing the bevel representation in the (H) point.

Adjust Bevel position in this point (H). The new bevel path will appear on the screen, modified according to the new position of points (L) and (H). In addition, screen shows the new curve's value.


Press START to resume the cycle. Press  to proceed to the third process level (Complete Manual bevel).

Processing level 3. Complete MANUAL bevel

In this level the system permits to modify the bevel position in all the inflexion points respecting to the blocking centre. Inflexion point is every point in the shape that is a local minimum or maximum of radius.

The first point appearing is the initial point (0). This normally coincides with the minimum radius of the eyebrow or upper inflexion point.

Adjust the bevel position in (0) and press  to proceed to the next inflexion point (1).

Adjust the bevel position in (1) and press  to proceed to the next inflexion point (2).

Proceed the same way with the rest of the points. The number of point can vary depending on the shape and decentration. It will normally be around 4 or 6 but some polygonal shapes can have more.

After a complete rotation, screen shows point (0) again.

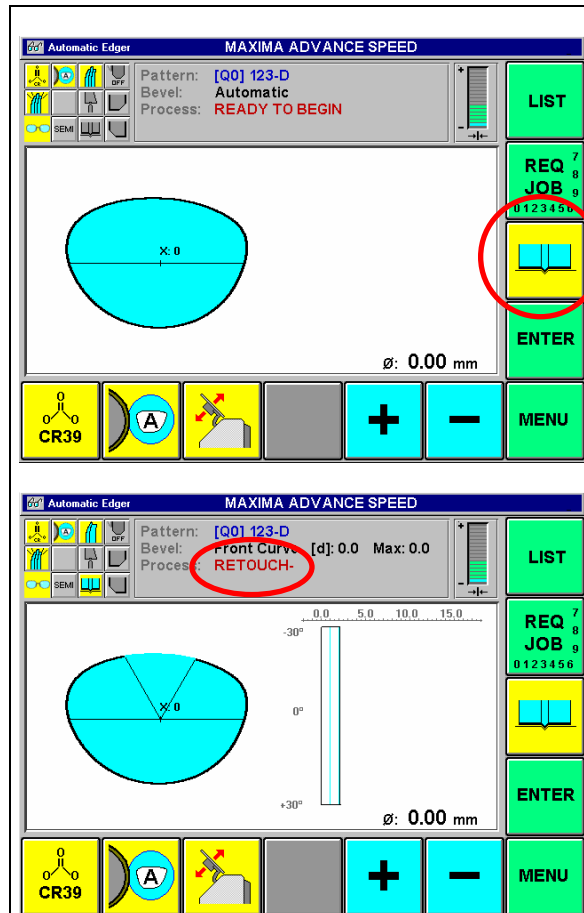
The new bevel path will appear on the screen, modified according to the new position of modified points. In addition, screen shows the new curve's value.

Note 1: The number of point can vary depending on the shape and decentration mode (rim or boxing). It will normally be around 4 or 6 but some polygonal shapes can have more.

Note 2: To move back to the previous level, select any other bevel program and

press the key  2 sec.

7. RETOUCH FUNCTION



This function is only available once a normal process has been finished.

If the size of the lens is not correct (too big), press the retouch key. Then the bevel representation of the edged lens will be recalled. Adjust the size as needed with (+) and (-).

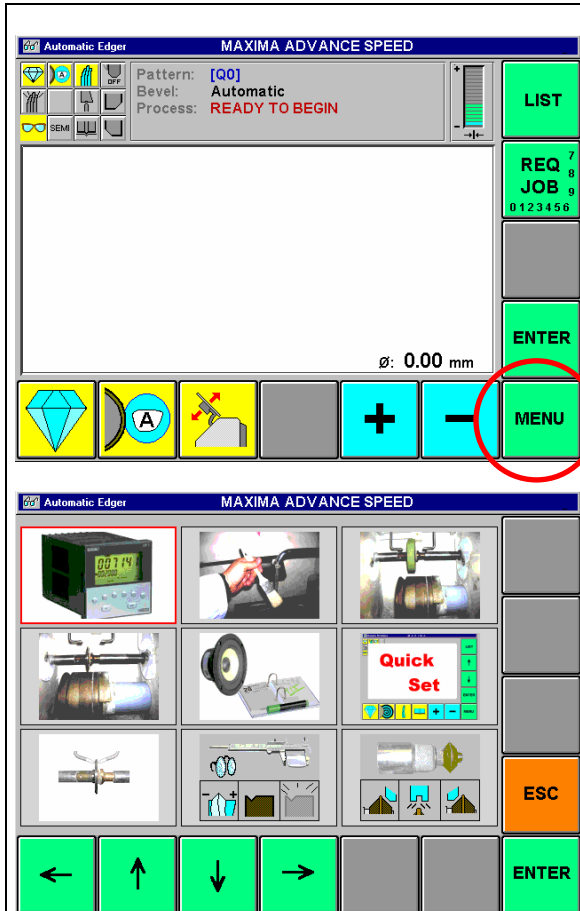
In a retouch process, only size can be reduced. Position and type of bevel can't be changed.

Size reduction is limited to -0.5mm for each retouch, but several retouch processes can be carried out in a row.

Press retouch key and adjust size with (+) and (-).

Note: In the process description window you can see the retouch mode process.

8. TECHNICAL MENU FOR USERS



To enter in the technical menu press **MENU**.

Screen shows the different options available in the **USER LEVEL**.

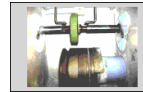
Use the arrows to select the desired menu and press **ENTER**.



COUNTERS



SINK CLEANING



WHEEL SHARPENING



WHEELS AUTO-CALIBRATION



USER'S WARNING



QUICKSET CONFIGURATION



TOUCH PROBES

CALIBRATION



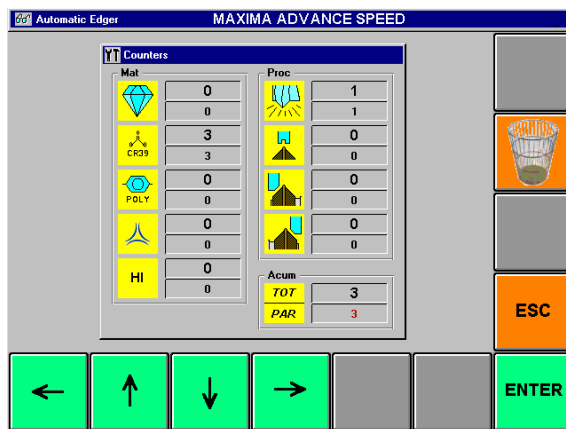
BEVEL POSITION ADJUSTMENT AND BEVELLED LENSES SIZE ADJUSTMENT



GROOVE AND PIN-BEVEL POSITION ADJUSTMENT AND GROOVED LENSES SIZE ADJUSTMENT



8.1 COUNTERS



This option allows checking the counters of different materials and wheels. It also allows resetting partial counters.

Select the option and press ENTER.

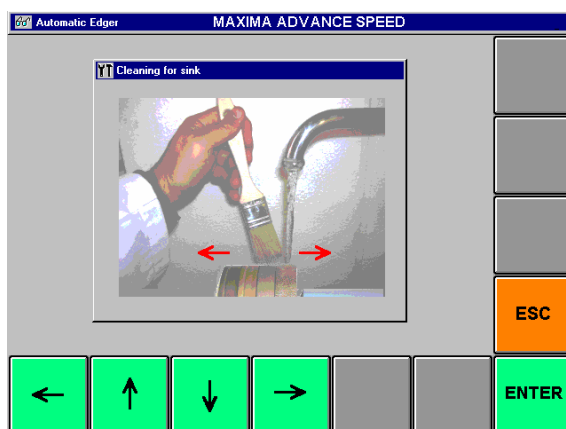
In every item, upper box contains the total number of lenses and lower box is the partial counter.

To clear a partial counter place the cursor over it (so it is highlighted) and press trash key.

Total counter can not be cleared.







8.2 CLEANING

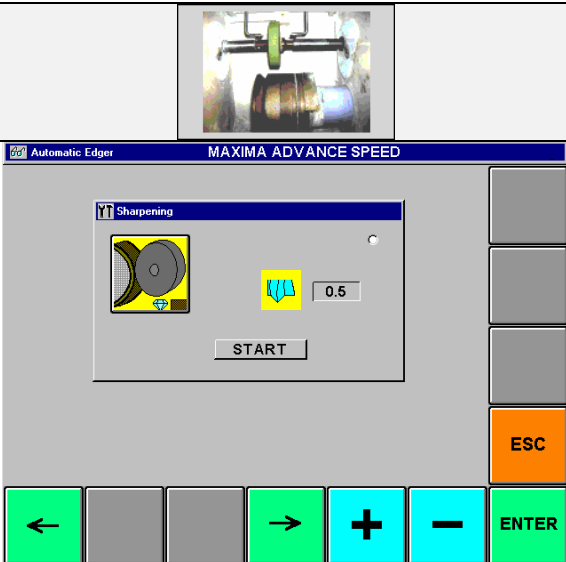
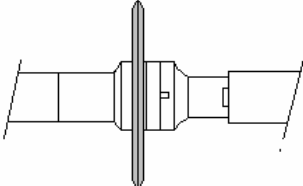


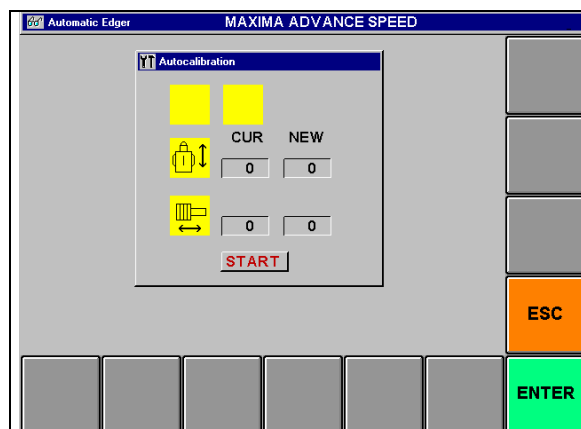
CAUTION!

To assure a good conservation of the equipment and prevent possible future faults it is recommended to do a daily maintenance consisting of cleaning the inside of the working area. The best moment to do it is at the end of the day or at the end of every shift.

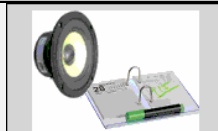
- 1) Loosen the 2 screws from the wheels cover and remove the wheels cover.
- 2) Select the cleaning option and press **ENTER**. Water will flow from the sink output.
- 3) Move the wheels assembly pressing a few seconds .
- 4) Clean the wheels and the wheel shaft on the right with the brush.
- 5) Press and hold  until the wheel assembly is parked to its rightmost position.
- 6) Move the grooving assembly pressing just once .

	<p>7) Clean the grooving disc and the shaft.</p> <p>8) Press  to bring back the grooving shaft to its parking position.</p> <p>Press "ESC" to leave.</p>
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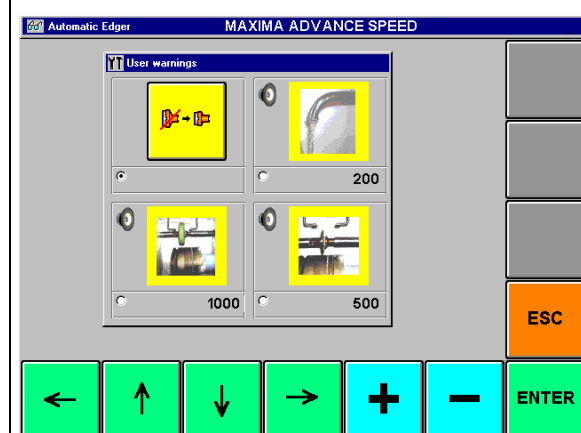
 <p>MINERAL ROUGHING</p> <p>BEVEL</p> <p>POLISH (CAN'T BE USED WITH THE POLISH WHEEL SHARPENING BAR)</p> <p>MANUAL SHARPENING (WITH POLISH WHEEL SHARPENING BAR)</p> <p>DEPTH 0.5</p>	<h3>8.3 WHEEL SHARPENING</h3> <p>Wheels wear out and get dirty when used, losing cutting power. When this happens, it is recommended to sharpen them, with the following procedure:</p> <ul style="list-style-type: none"> - Select the wheels sharpening option and press ENTER. - Then select the wheel to be sharpened or cleaned. - Set the depth in millimeters. We recommend adjusting the value at 1mm. - Highlight the START icon and press START on the keyboard. <p>You can use the Manual Sharpening. Depending on the software version, you may need an access code: Start, V1, Stop, V4 (see page 3.2).</p> <p>NOTA: If a higher value than 1mm is necessary, we advise to sharpen the wheels at 1 mm deep 2-3 times in a row rather than doing it just once of 2-3 mm deep.</p>
	<h3>8.4 AUTOMATIC WHEELS CALIBRATION</h3> <p>This function allows a self-calibration of the diamond wheels mode.</p> <ul style="list-style-type: none"> - Place the calibration gauge provided with the edger as if it was a lens and close the clamping chuck. - Select the automatic wheels calibration option and press ENTER. Then put the cursor over the START box and press "+". The process will start automatically. <p>NOTA: The automatic calibration function only calibrates the bevel wheels. Use the gauge</p>



provided with the accessory kit.



8.5 USER MAINTENANCE WARNINGS




☐ WARNING DISABLED


☒ WARNING ENABLED

 WARNING ICON

Four different maintenance warnings can be activated:

CHANGE OF CHUCK : This warning appears when processing a half eye job, indicating that half eye chuck must be used. It appears twice, once when calling the job and a second time when pressing START.

CHANGE OF WATER : This warning reminds that the cooling water should be replaced.


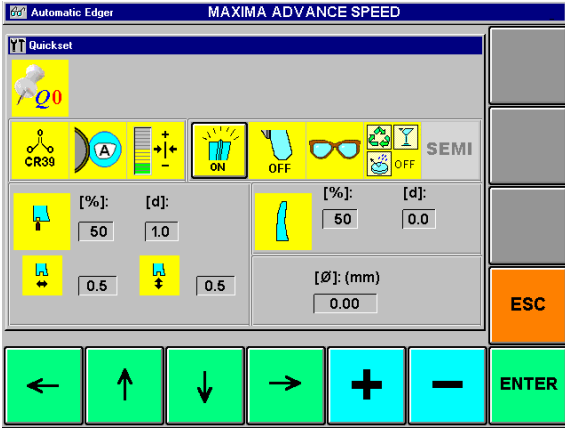

SHARPENING OF WHEELS : When reaching the programmed number of turns, the edger will prompt a message asking for wheels sharpening.


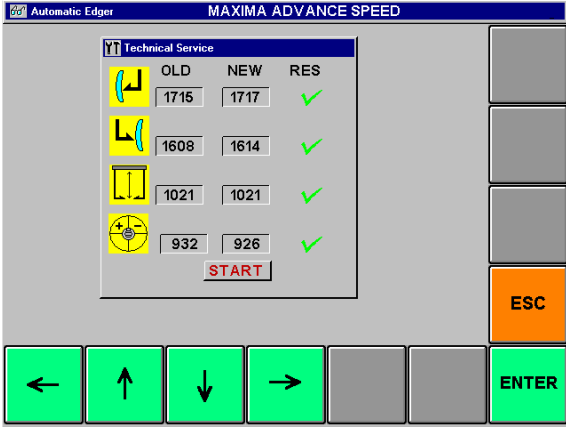

AUTOCALIBRATION : this warning remembers that an autocalibration is recommended.

HOW TO ENABLE AND DISABLE WARNINGS:

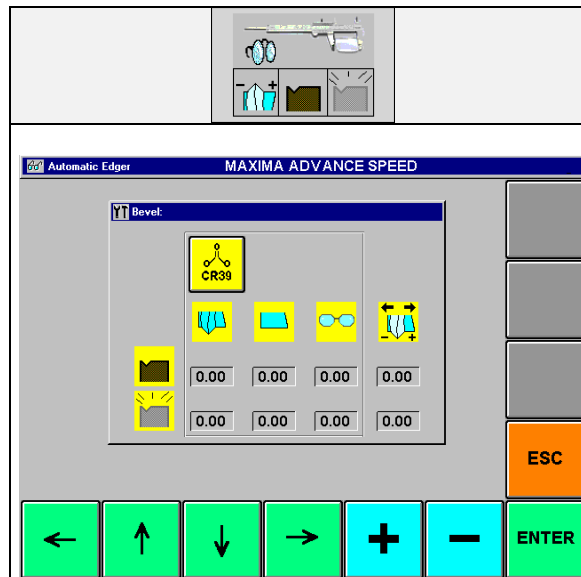
Place the cursor on the white circle and press "+". A black dot will indicate that the warning has been enabled.

Place the cursor on the number-of-cycles field and program the convenient value. Now, when the number of cycles reaches the programmed value, a warning will be displayed.

	<h2>8.6 “QUICK SET” PROGRAMMING</h2>
	<p>Quick Set allows working with 10 different working configurations that can be called by pressing a single key. Default Quick Set is Q0. This is the one loaded at the beginning of every new cycle.</p> <p>Select Quick Set icon  and press ENTER. The programming panel will appear.</p> <p>This panel permits to set manually all the parameter values. It also allows selecting a specific roughing type as well as a clamping pressure for every material in the same Quick Set. The panel is shown on the left.</p> <p>Left upper corner shows the icon corresponding to the current Quick Set. It allows to select one of the 10 available Quicksets (Q0, Q1 ... up to Q9), showing all the corresponding settings.</p> <p>The three upper icons, material, roughing and clamping pressure are interrelated.</p> <p>The next is exceptions that apply:</p> <ul style="list-style-type: none"> • Manual bevel enables SEMI mode. • Flat bevel disables minibevel option. • When the mineral material is selected, the polish option is disabled.

	8.7 TOUCH PROBES CALIBRATION
	<p>Mount and clamp the calibration disc in the lens shaft.</p> <p>Move to the START icon with the arrows.</p> <p>Press START to start and complete the calibration process.</p> <p>The calibration is OK when the symbol  appears in the RES column.</p>

8.8 BEVEL POSITION ADJUSTMENT AND BEVELLED LENSES SIZE ADJUSTMENT



Lenses with standard bevel



Lenses with flat bevel



Lenses with mini-bevel



Bevel position



Size after bevel without polishing



Size after bevel and polishing

The grinding wheel wearing due to the normal use of the edger or due to the repeated wheels sharpening can modify the final size of edged lenses.

The automatic calibration of the wheels allows minimizing this effect, however to obtain more accurate results it's possible to modify the size of the edged lenses with the user's technical menu 8.8.

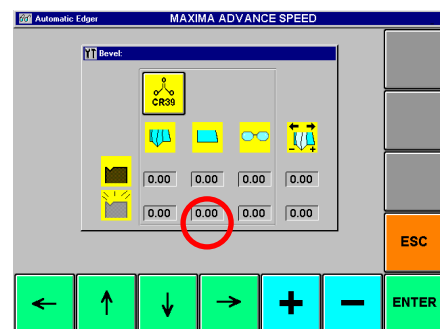
- 1) Choose the material by highlighting the material icon and click on the +/- keys.
- 2) In each box enter the adjustment value, **positive if the size must be increased and negative if it must be shortened.**
- 3) Press ENTER to validate the correction

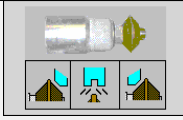
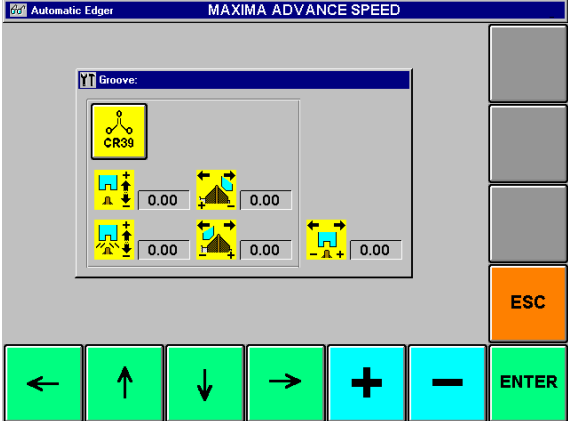





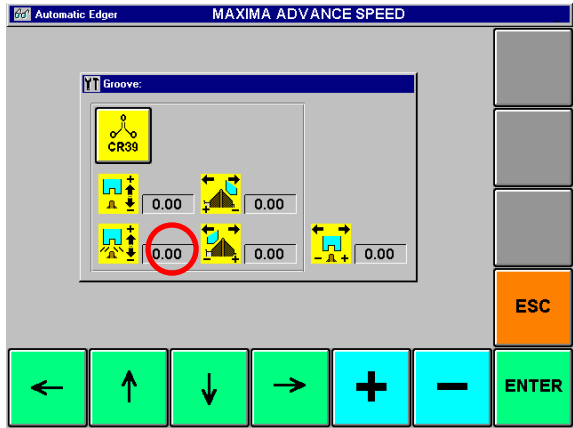
NOTA: When you'll come back to this menu, all the adjustment values will be 0 again.

Example:

The CR-39 lenses have the right size for the ones with bevel and mini-bevel, but they're edged 0.1 mm too big in flat bevel with polishing.



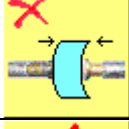



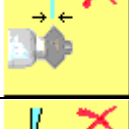
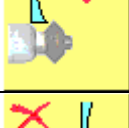


Thus we'll have to adjust at -0.10 in the box marked as follow:















	<h2 style="text-align: center;">8.9 GROOVE AND PIN-BEVEL POSITION ADJUSTMENT AND GROOVED LENSES SIZE ADJUSTMENT</h2>
	<p>An intense use of the edger can modify the final size of the groove depth and/or pin-bevel. It's possible to modify the size of the edged lenses with the user's technical menu 8.9.</p> <ol style="list-style-type: none"> 1) Choose the type of grooving/pin-bevel highlighting the icon: 2) In each box, enter the code (positive = deeper groove) 3) Press Enter to validate the correction <p>NOTA: When you'll come back to this menu, all the adjustment values will be 0 again.</p>
<div style="margin-bottom: 10px;">  <p>Groove depth adjustment for lenses with a bevel without polishing (positive = deeper)</p> </div> <div style="margin-bottom: 10px;">  <p>Groove depth adjustment for lenses with a polished bevel (positive = deeper)</p> </div> <div style="margin-bottom: 10px;">  <p>External pin-bevel depth adjustment (positive = deeper)</p> </div> <div style="margin-bottom: 10px;">  <p>Internal pin-bevel depth adjustment (positive = deeper)</p> </div> <div>  <p>Groove position adjustment (positive = towards the internal face)</p> </div>	<p>Example: The groove for CR-39 lenses is too shallow after polishing (0.2 mm too shallow). To compensate for this effect, we'll set a positive value of +0.20 in the marked box:</p> 

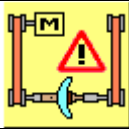

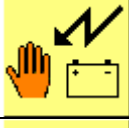
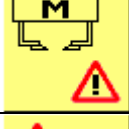
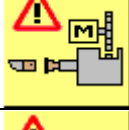


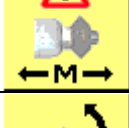



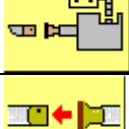
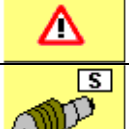
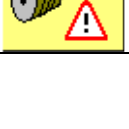
9. USER WARNINGS


ICON	CODE	DESCRIPTION
	WP 0	Only for test version. Pops up when an unavailable option has been selected.
	WP 1	Process interrupted with STOP key.
	WP 2	Close clamp before start of process
	WP 3	No pending jobs in tracer.
	WP 4	Requested job does not exist.
	WP 5	Too many areas without material while measuring. Lens cannot be measured.
	WP 6	Warning to take off the pressure-meter before leaving the calibration screen.
	WP 7	Insufficient diameter of sharpening disk.
	WP 8	Insufficient width of sharpening disk
	WP 9	Diameter smaller than minimum
	WP 10	Small radius – Change chuck
	WP 11	Change of water warning
	WP 12	Wheels sharpening warning

	WP 13	Autocalibration warning
	WP 14	Put calibration gauge
	WP 15	Thick lens for the flat bevel.
	WP 16	Close the door to start the process *
	WP 17	Door has been opened during the cycle *
	WP18	Extract the axis adjustment tool
	WP19	The grooving has been disabled because the lens is too thin.
	WP20	The front side pin bevel has been disabled to avoid overlapping with the bevel or the groove.
	WP21	The back side pin bevel has been disabled to avoid overlapping with the bevel or the groove.
	WP22	A problem occurred while opening or closing the door.

10. ERROR LIST

ICON	CODE	DESCRIPTION
	EP 0	Generic Error.
	EP 1	Power board error.
	EP 2	Communication DSP error.
	EP 3	Server doesn't answer.
	EP 4	Transmission error.
	EP 5	Reception Error.
	EP 6	OMA protocol error.
	EP 7	Touch probes not calibrated.
	EP 8	Wheels not calibrated.
	EP 9	Clamp pressures not calibrated
	EP 10	Incorrect access code
	EP 11	Size assembly error: Step lost or motor trouble function.
	EP 12	Wheel carrier assembly error: Step lost or motor trouble function

	EP 13	Rotating lens assembly error: Steps lost or motor trouble function
	EP 14	E2prom failure
	EP 15	Power failure
	EP 16	Error in touch probe motor
	EP 17	Error in clamping lens motor
	EP18	Error in CCD reading in touch probe assembly.
	EP19	Size contact failure in size assembly.
	EP20	Grooving assembly translation motor: Step lost or motor trouble function.
	EP21	Grooving assembly inclination motor: Step lost or motor trouble function.
	EP22	Grooving assembly not calibrated after a reset.
	EP23	The grooving assembly motor has got stuck and is stopped for safety reason.
	EP24	Motor over current failure. On the display the failing motor is shown.
	EP25	No se consigue la presión adecuada en la mordaza
	EP26	Error in the grinding wheels monitoring, the sensor may be failing or the motor cannot start.

	EP27	The grooving assembly piston has got stuck.
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***If an error pops up on the display, please write down the number code and call the authorized technical service assigned to your area.**

11. MAINTENANCE AND GENERAL CARE

11.1 GENERAL MAINTENANCE

- At the end of the day or shift, clean the working area and lens shafts with water and a brush, eliminating glass remains from those parts. Leave the cover open and switch off the main switch. Proceeding in this way internal moisture will be easily evacuated
- When edging polycarbonate lenses check the sink at least once every 20 lenses and clean remains is necessary. At the end of the day, clean the sink and the filter of the cooling unit.
- If the edger is going to be out of use for a long period of time, remove power cord from the socket and protect with the dust cover.
- Never use organic solvents when cleaning the outside of the unit. Those solvents may damage the surface.
- Hard waters, as well as salty product or similar dissolved in the cooling water can cause a premature rust of the aluminum parts. If your water is excessively hard, use magnetic water conditioners or similar.



CAUTION!

- **When using closed water cooling circuits, please change the water as often as recommended in the corresponding manual. A lack of care may affect the proper functioning of the equipment or even damage it due to the excess of glass residues in the water.**

It is recommended to enable the change of water message and to program the associated number of cycles as a reminder for the user (See User warnings).

11.2 FUSE REPLACEMENT

Operation:

- Switch off the edger and plug out from the mains.
- Remove the cap of the fuse holder by turning it counterclockwise as indicated on the cap.
- Remove bad fuse from the holder.
- Place a new fuse of the same value and size.
- Close the cap of the fuse holder, turning it clockwise.



WARNING!

- Do not use different fuses than the specified ones:

T-2A 250V for 230V~ versions

T-3A 250V for 120V~ versions

- If fuses blow out frequently, do not manipulate inside the equipment. Call the authorized Technical Service assigned to your area.

Note: If the inside of the equipment is manipulated without the presence of the authorized Technical Service, personal injuries or electrical shock can occur.

12. ACCESSORIES

MAXIMA SPEED ADVANCE AND OPTIMA ADVANCE edgers are delivered with an accessory kit composed by parts for work and service, spare parts and common tools.

LIST OF ACCESSORIES AND THEIR FUNCTION		
1	Flat screw driver	Common tool for general service.
1	Indelible marker	Working accessory. Used to mark the centre and axis of lenses.
1	Brush	Service accessory. For daily cleaning of the working area
1	Black sharpening disk	Service accessory. To sharpen the MINERAL roughing wheel
1	Green sharpening disk	Service accessory. To sharpen the bevel wheel.
1	Gray sharpening stick	Service accessory. To sharpen the polishing wheel
2	2Amp. fuses	2 spare parts for fuses of the refrigeration pumps outlets (only for 230 V~ versions).
2	3Amp. fuses	2 spare parts for fuses of the refrigeration pumps outlets (only for 120 V~ versions).
1	Metal calibration disk for ADVANCE edgers	Service accessory. For self-calibration of wheels and technical service.
1	M8 Allen wrench	Common tool for grinding wheel replacement.
1	Rubber ring	Spare rubber ring for the water output.
4	Threaded plastic tips for touch probes	Consumible: To easily replace the worn ones on the touch probes.
1	ø 23mm chuck	Working accessory. The chuck used for standards jobs.
1	ø 19 mm half eye chuck	Working accessory. The chuck used for standards jobs.

1	Ø 16 mm half eye chuck	Working accessory. Chuck used when both Ø23mm and Ø19mm can't be used (both icons crossed).
1	Sharpening disk holder	Service accessory. To fit a sharpening disk on the lens shaft.
4	Ø 23 leather washers	Spare parts for the Ø23mm normal chuck.
4	Ø 19 leather washers	Spare parts for the Ø19mm half eye chuck.
2	Ø 16 leather washers	Spare parts for the Ø16mm half eye chuck.

13. TECHNICAL CHARACTERISTICS

Distribution of wheels:

- Plastic roughing wheel, for CR-39, Polycarbonate, organic, High Index and Trivex™
- Mineral roughing wheel
- Universal bevel wheel (For all materials and bevels)
- Muela de pulido para CR-39, alto índice, Polycarbonate y Trivex™

Programs and functions available:

- 5 bevel programs: Automatic, Proportional, Front side, Manual and flat.
- Minibevel Function
- SEMI function
- Retouch function
- Adjustable lens clamping pressure levels
- Configurable initial menu
- Polish program

Others:

- Icon driven graphic interface
- PC and bar code reader connections
- Automatic calibration
- Automatic wheels sharpening

Communications

- To **indo** peripherals through RS 485
- To PC through RS 232 (OMA compatible)

Lens limits (diameter):

- Minimum: 18m for Flat Bevel and 19,6 mm for Bevel
- Maximum: 90 mm

Electrical characteristics:

- Voltage: 220V~ / 50 Hz - 110V~ /60 Hz
- Power: 1000W
- External circuits' isolation: Main isolation and earth connection.

Protections:

- Pump fuses: 2 fuses of 2Amp 5x20 (version 230V~)
2 fuses of 3Amp 5x20 (version 120V~)
- Main inlet: Thermal breaker

Water circuit:

- Input: Connection for 12 mm flexible pipe
- Drain: 63mm drain pipe

Dimensions and weight

- Size: 610mm(W) x 480mm(D) x 430mm(H)
- Weight: 75Kg

Colour:

Combined: Gray or White cover and black bench.

Normative:

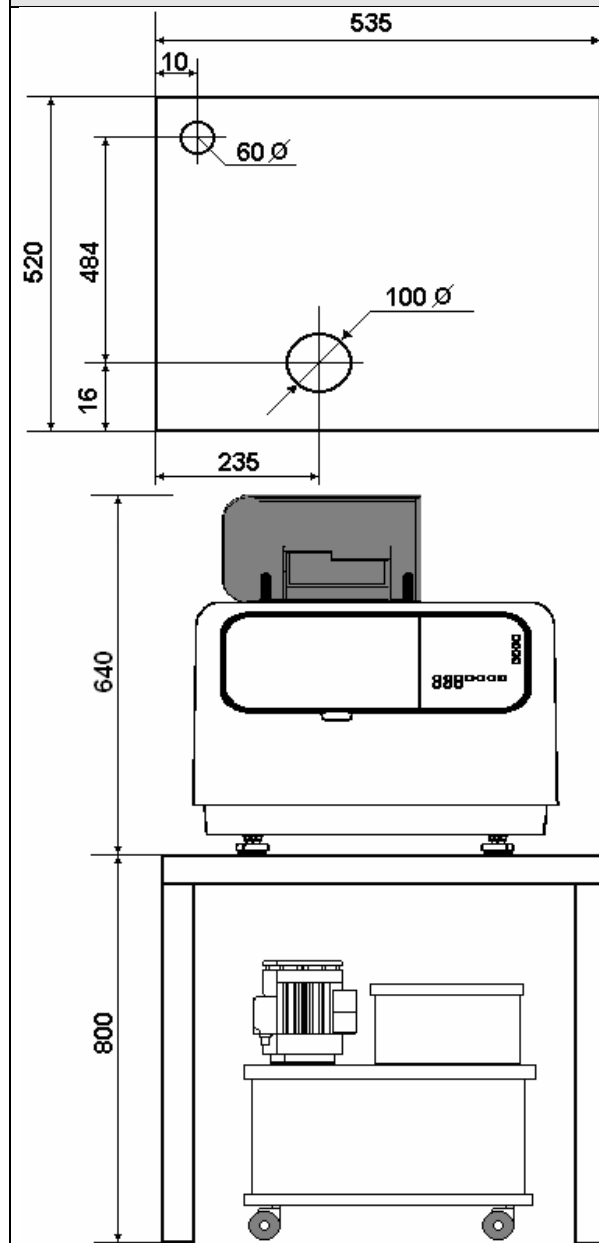
This equipment complies with the UNE-EN61326:99, UNE-EN 61000-3-2:99 and UNE-EN 61000-3-11.02 norms for electromagnetic compatibility.

APPENDIX. UNPACKING AND INSTALLATION



CAUTION!

APPENDIX 1. HOW TO PREPARE THE WORKING BENCH

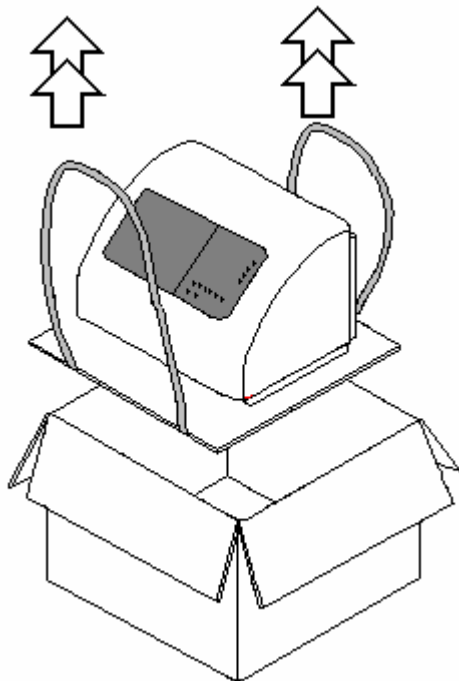
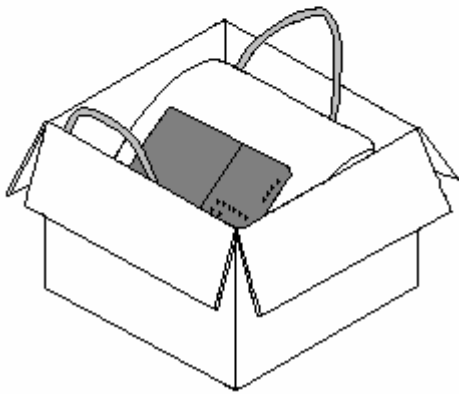
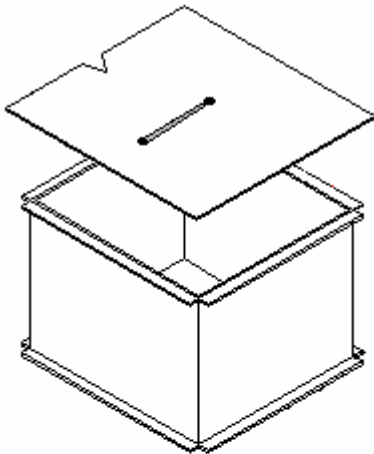


- The machine be should installed in a firm and consistent a table or base to avoid vibrations and accidents.
- The bench should have a height of approx. 80cm, to allow a correct installation of the cooling water circuit.
- Make sure to not have cupboards or shelves over the bench at heights under 56cm.
- Make the holes for the drainpipe, water input pipes and cables according to distances and positions shown on figure.

NOTE:

Due to the features of weight and volume, the equipment's package comes attached to a transportation base. Move the equipment near the working bench by using the suitable transportation means. Once close to the working bench, proceed as per "**Appendix 2. UNPACKING**".

APPENDIX 2. UNPACKING

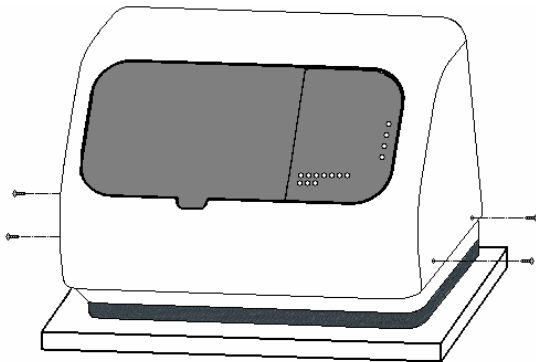


1. Open the box from the upper side. In the box, there's an arrow indicating the upper side.
2. Remove the upper wooden plate, the lateral carton protectors and all accessories included.
3. The machine is fixed to a wooden base. With the help of another person pull out the edger from the box. Use the belt attached to the wooden piece.

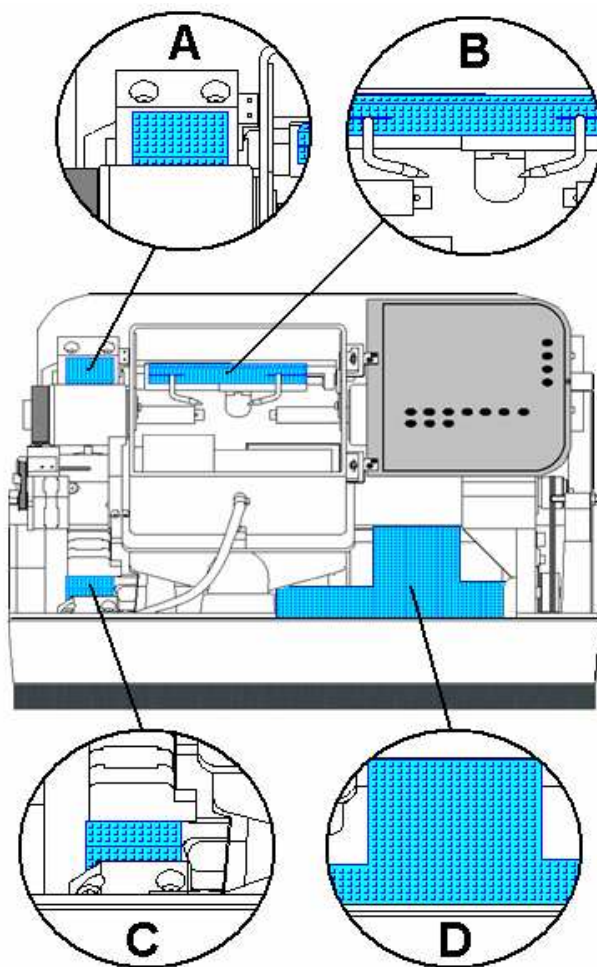
NOTE: Do not forget that the unit weights about 75 Kg, so do not lift it up without help.


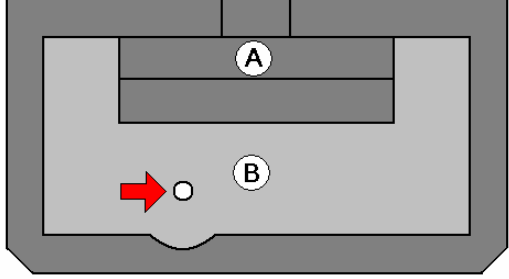
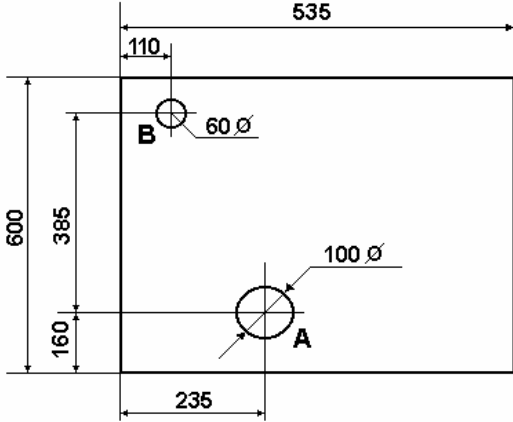
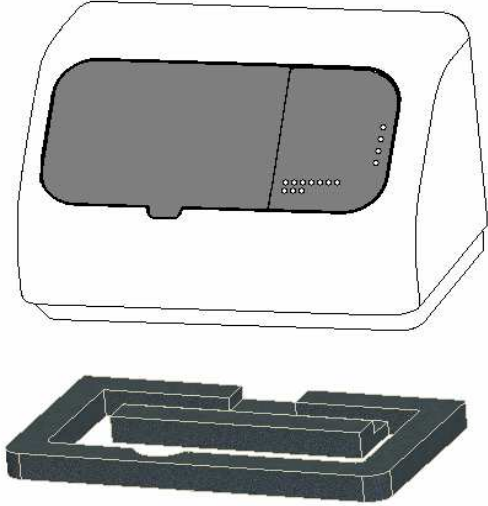
4. Leave the machine in a steady and solid place. Remember that it weights about 75 Kg.
5. Unscrew and remove the 4 fixation screws that hold the machine to the wooden base. Then remove the wooden base.
6. Screw in the fixation holes the 4 rubber feet provided in the box.
7. Place the machine in the working bench previously prepared as per "**Appendix 1. HOW TO PREPARE THE WORKING BENCH**".

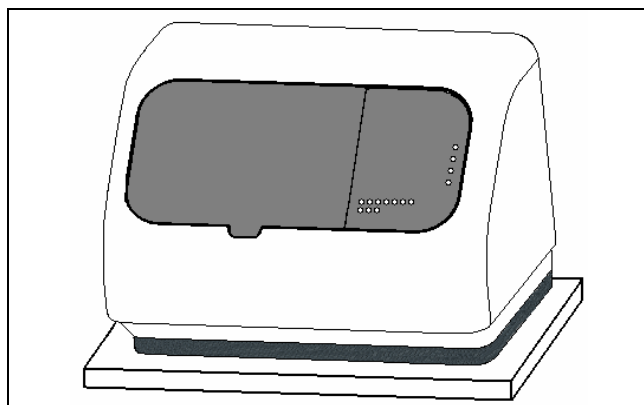
APPENDIX 3. HOW TO REMOVE THE TRANSPORTATION LOCKS



1. Remove the 4 screws that hold the main cover.
2. Pull the cover up, to remove it. The display/keyboard will remain on the edger.
3. Remove the foam protection from the size assembly at the upper left side of the edger (figure **A**).
4. Remove the foam protection from the side assembly at the lower left side of the edger (Figure **C**).
5. Remove the foam locking part from the touch probe arms (Figure **B**).
6. Remove the foam locking part from the translation assembly (Figure **D**).
7. Once the locking parts have been removed, mount the main cover again following the steps in reverse order.

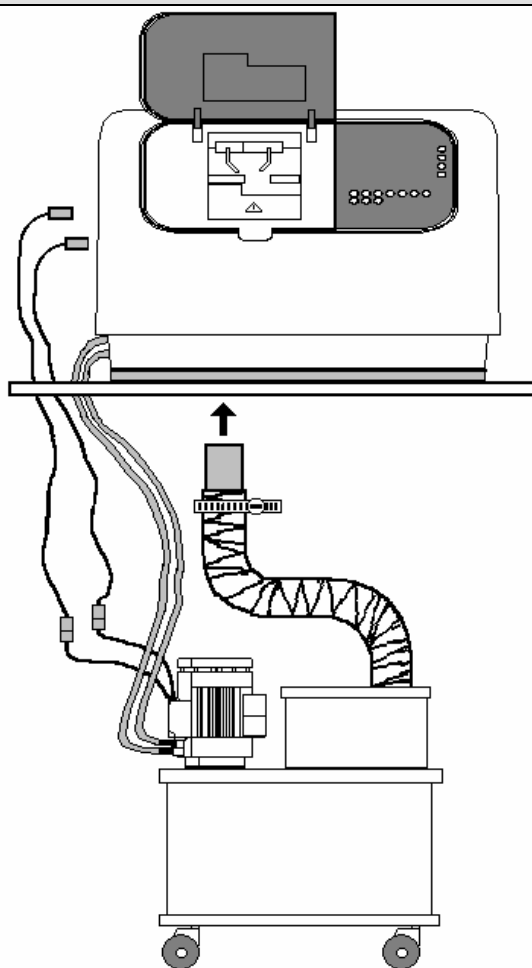


APPENDIX 4. HOW TO INSTALL THE SOUNDPROOF BASE	
	<p>The unit has a soundproof foam structure over which it lays.</p>
	<p>The soundproof base has a special hole to mark the center of the place where to drill the table for the draining pipe, before removing the central part B from the main part A to carry on with the installation.</p>
	<p>To install the soundproof base, make the two usual holes in the bench or table: one for drainpipe (A) and another to pass the input water pipes and pump cables (B). To make easy find the position of the drain pipe hole, the soundproof base have a small hole to mark it.</p> <p>IMPORTANT Never cut or drill the soundproof base.</p>
	<p>Once the holes are made, place the soundproof base on the table, and place the edger over it, being sure that the entire contour fits perfectly.</p>



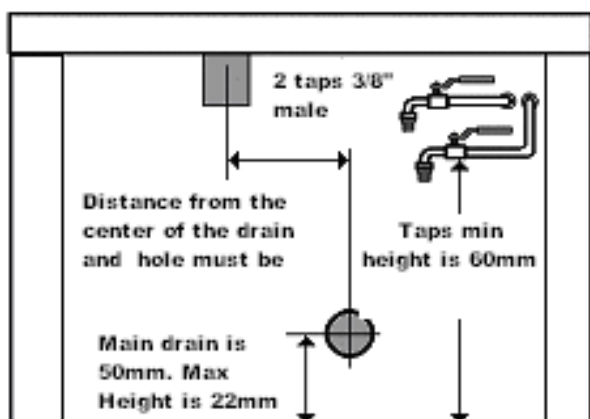
Once the edger is mounted on the soundproof base, check that it is well centered and leveled.

APPENDIX 5. INSTALLATION OF THE COOLING CIRCUIT



1. Fill the cooling tank with water up to 5cm below of the top and mount the pumps and filter box as explained in the cooling system user's manual. Finally, place it in the working position.
 2. Plug in the pump connecting cables to the machine and mount the water inlet tubes, from the pumps to the machine.
 3. Install the rigid drainpipe and then insert the flexible one into it.
 4. Introduce the other extreme of the drain tube into the filter box, in the cooling equipment.
- Installation has finished.

APPENDIX 6. INSTALLATION WITH DIRECT WATER AND DECANter TANK



Parts needed:

- 2 Taps 3/8" male installed at a height of 60 cm from the floor.
- 2 Electrovalves (Ref.: 1776) to be mounted with the taps.
- One decanter tank with filter. (Ref.: 3722).

Note: It is recommended to use a main drain tube in the wall at approximately 22 cm from the floor and with a diameter of 50 mm. For more information, please read the manual of the decanter unit.

INDUSTRIAS DE OPTICA S.A.U. reserves the rights to make technical changes on the equipment or manual without previous warning.



INDUSTRIAS DE OPTICA, S.A.U.

Alcalde Barnils 72
08174 Sant Cugat del Vallés

“CE” DECLARATION OF COMPLIANCE

INDUSTRIAS DE OPTICA, S.A.U., with registered offices at Alcalde Barnils 72, 08174 Sant Cugat del Vallés (Barcelona, Spain), drawing up this Declaration of Compliance,

DECLARES:

That the MAXIMA and OPTIMA edging apparatus, for edging ophthalmic lenses, are manufactured in accordance with the following:

- Compliance with 98/37/EEC concerning machines.
- Compliance with electromagnetic compatibility standards as under European Directive 2004/108/CE.
- Compliance with EC labelling standards as under EEC Directive 93/68.
- Compliance with low voltage standards as under European Directive 2006/95/CE.

For this reason the corresponding technical dossier has been prepared and deposited at the registered offices of Industrias de Optica, S.A.U. in Sant Cugat del Vallés.

The undersigned hereby declares that the above-mentioned apparatus complies with the above Directives.

Signed on November 9th 2007 by INDUSTRIAS DE OPTICA, S.A.U

DECLARACION “CE” DE CONFORMIDAD

INDUSTRIAS DE OPTICA, S.A.U., con domicilio social en la calle Alcalde Barnils 72, 08174 Sant Cugat del Vallés (Barcelona, España) elabora esta Declaración de Conformidad y

DECLARA:

Que los equipos de biselado MAXIMA y OPTIMA, destinados al biselado de lentes oftálmicas se fabrican de acuerdo a lo siguiente:

- Cumplimiento de la Directiva Europea 98/37/CEE sobre Máquinas.
- Cumplimiento de los estándares de compatibilidad electromagnética según la Directiva Europea 2004/108/CE
- Cumplimiento de los estándares de marcado según la Directiva Europea 93/68.
- Cumplimiento de los estándares de Baja Tensión según la Directiva Europea 2006/95/CE.

Por dicho motivo se ha elaborado el correspondiente Expediente Técnico, que se encuentra depositado en la sede social de Industrias de Optica, S.A.U. de Sant Cugat del Vallés.

El abajo firmante declara la adaptación de los equipos indicados a las mencionadas Directivas.

Firmado a 9 de Noviembre de 2.007 por INDUSTRIAS DE OPTICA, S.A.U.

Santiago Albert Seseña
R&D Manager of Equipment Business Unit
Director de I+D de la Unidad de Negocio de Bienes de Equipo